

WHAT IS CLAIMED IS;

1. An image processing apparatus comprising:
an input unit for inputting image data of an image composed of a plurality of pixels, each having a color data;
a storage unit for storing a first condition on absolute positions of pixels in the image and a second condition on positions of pixels relative to a target pixel;
a binarization unit for binarizing the target pixel based upon a color data of the target pixel and that of at least one related pixel to the target pixel in the image to generate a binarized value, the at least one related pixel satisfying the first and second conditions stored in said storage unit; and
a determination unit for determining whether or not the image has a specified pattern, based upon binarized values obtained by said binarization unit.
2. The image processing apparatus according to claim 1, wherein the binarization unit obtains a color data for binarization based upon the color data of the target pixel and that of the at least one related pixel, and generates the binarized value based upon whether or not the value indicated by the color data for binarization is within a predetermined range.
3. The image processing apparatus according to claim 2, wherein the color data for binarization is obtained based upon an average value between the value of the color data of the target pixel and that of the at least one related pixel.

4. ~~The image processing apparatus according to claim 1, wherein~~

every N pixel from a pixel at an edge of the image in a predetermined direction within the image is the pixel defined in the first condition, and a pixel which exists on a straight line including the target pixel extending in the predetermined direction and which is positioned within a predetermined range from the target pixel is the pixel defined in the second condition.5.

The image processing apparatus according to claim 1, wherein the storage unit stores a third condition defining a position relative to the target pixel in a predetermined direction specified by a user, and wherein the at least one related pixel includes a pixel satisfying the third condition.

6. The image processing apparatus according to claim 1, wherein the determination unit determines whether or not an image element having a shape similar to the specified pattern exists, based upon the binarized values, and when the image element is determined to exist, finely examines the shape of the image element to determine whether or not the specified pattern exists.

7. The image processing apparatus according to claim 1, wherein when the image element is determined to exist, the determination unit inhibits to generate an image resembling closely the image received from the input unit.

8. A recording medium for recording an image processing computer program comprising the steps of:

inputting image data of an image composed of a plurality of pixels, each having a color data;

storing a first condition on an absolute positions of pixels in the image and a second condition on positions of pixels relative to a target pixel;

binarizing the target pixel based upon a color data of the target pixel and that of at least one related pixel to the target pixel in the image to generate a binarized value, the at least one related pixel satisfying the first and second conditions that have been stored; and

determining whether or not the image has a specified pattern, based upon the binarized values obtained.

9. The recording medium for recording an image processing computer program according to claim 8, wherein the step of generating the binarized value includes the steps of:

obtaining a color data for binarization based upon the color data of the target pixel and that of the at least one related pixel; and

generating the binarized value based upon whether or not the value indicated by the color data for binarization is within a predetermined range, and

wherein the color data for binarization is obtained based upon an average value between the value of the color data of the target pixel and that of the at least one related pixel.

10. The recording medium for recording an image processing computer program according to claim 8, wherein every N pixel from a pixel at an edge of the image in a predetermined direction within the image is the pixel defined in the first condition, and a pixel which exists on a straight line including the target pixel extending in the predetermined direction and which is positioned within a predetermined range from the target pixel is the pixel defined in the second condition.

11. The recording medium for recording an image processing

computer program according to claim 8, wherein, in the step of storing, a third condition is stored, the third condition defining a position relative to the target pixel in a the predetermined direction specified by a user, and wherein the at least one related pixel includes a pixel satisfying satisfying the third condition.

12. An image processing method comprising the steps of:

inputting image data of an image composed of a plurality of pixels, each having a color data;

storing a first condition on an absolute positions of pixels in the image and a second condition on positions of pixels relative to a target pixel;

binarizing the target pixel based upon a color data of the target pixel and color that of at least one related pixel to the target pixel in the image to generate a binarized value, the at least one related pixel satisfying the first and second conditions that have been stored; and

determining whether or not the image has a specified pattern based upon the binarized values obtained.

13. An image processing apparatus comprising:

an input unit for inputting image data of an image composed of a plurality of pixels, each having a color data;

a storage unit for storing a plurality of threshold values;

a binarization unit for selecting one of the threshold values stored in the storage unit, and for binarizing the target pixel of the image based upon the selected threshold value; and

a determination unit for determining whether or not the image has a specified pattern, based upon the binarized values obtained by said

binarization unit.

14. The image processing apparatus according to claim 13, wherein the binarization unit selects one of the plurality of threshold values based upon the color data of at least one related pixel related to the target pixel among the plurality of pixels.

15. The image processing apparatus according to claim 14, wherein a plurality of pixels within a partial area of the image including the target pixel are at least one related pixels.

16. The image processing apparatus according to claim 15, wherein the binarization unit selects one of the plurality of threshold values based upon the greatest color data among color data possessed by the plurality of related pixels within the partial area.

17. The image processing apparatus according to claim 13, wherein the determination unit determines whether or not an image element having a shape similar to the specified pattern exists, based upon the binarized value, and when the image element is determined to exist, finely examines the shape of the image element to determine whether or not the specified pattern exists.

18. A recording medium for recording an image processing computer program comprising the steps of:

inputting image data of an image composed of a plurality of pixels, each having a color data;

storing a plurality of threshold values;

selecting one of the threshold values stored, and binarizing the target pixel of the image based upon the selected threshold value; and

determining whether or not the image has a specified pattern based upon the binarized values obtained.

19. The recording medium for recording an image processing computer program according to claim 18, wherein the binarizing step selects one of the plurality of threshold values based upon color data of at least one related pixel related to the target pixel among the plurality of pixels.

20. The recording medium for recording an image processing computer program according to claim 19, wherein:

the related pixel corresponds to a plurality of pixels within a partial area of the image including the target pixel and wherein, in the step of binarizing, one of the plurality of threshold values is selected based upon the greatest color data among color data possessed by a plurality of related pixels within the partial area.

21. An image processing method comprising the steps of:

inputting image data of an image composed of a plurality of pixels, each having a color data;

storing a plurality of threshold values;

selecting one of the threshold values stored, and binarizing the target pixel of the image based upon the selected threshold value; and

determining whether or not the image has a specified pattern, based upon the binarized values obtained.